Committee on Resources,

Subcommittee on Water & Power

water - - Rep. Ken Calvert, Chairman
U.S. House of Representatives, Washington, D.C. 20515-6204 - - (202) 225-8331

Witness Statement

STATEMENT OF
MICHEAL McINNES, TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION, INC.,
Representing
COLORADO RIVER ENERGY DISTRIBUTORS ASSOCIATION (CREDA)
Regarding
Maximizing Power Generation at Federal Facilities
Before the
SUBCOMMITTEE ON WATER AND POWER
Of the
COMMITTEE ON RESOURCES
Of the
U.S. HOUSE OF REPRESENTATIVES
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Mr. Chairman, members of the Committee, I am Micheal McInnes, Sr. Vice President/Deputy General Manager of Tri-State Generation and Transmission Association, Inc., and a member of the Colorado River Energy Distributors Association (CREDA). I am pleased to have been asked to talk with you today regarding Glen Canyon Dam operations, marketing of the Colorado River Storage Project (CRSP) resources, and recommendations to improve electric system conditions in the West.

Tri-State is a consumer-owned electric generation and transmission cooperative located in the states of Colorado, New Mexico, Wyoming and Nebraska. Tri-State is a wholesale provider of resources to 44 distribution cooperatives, that in turn serve approximately 487,000 consumer meters representing a population of about 1 million people. A portion of Tri-State's resource base is comprised of generation from the CRSP, of which Glen Canyon is the largest generation resource. Tri-State also owns coal and gas-fired generation resources, as well as 5,348 miles of transmission resources.

Tri-State is also the largest member of CREDA, which is a non-profit organization representing consumer-owned electric systems that purchase federal hydropower and resources of the CRSP. CREDA was established in 1978, and serves as the "voice" of CRSP contractor members in dealing with CRSP resource availability and affordability issues. CREDA represents its members in dealing with the Bureau of Reclamation (USBR) as the generating agency of the CRSP and the Western Area Power Administration (WAPA) as the marketing agency of the CRSP. CREDA members are all non-profit organizations, serving nearly 3 million electric consumers in the six western states of Arizona, Colorado, Nevada, New Mexico, Utah and Wyoming. CREDA members purchase over 85% of the CRSP power resource.

Tri-State and other CREDA members (contractors) have entered into long-term, cost-based contracts with WAPA for purchase of federal hydropower resources of the CRSP. These contracts provide for frequent rate adjustments in order to ensure repayment of the federal investment in the CRSP. Our purpose today is to

provide some background on the operational changes at Glen Canyon Dam, to discuss the marketing area of the CRSP, and to provide suggestions that may assist market conditions in the Western United States.

The CRSP was authorized in the Colorado River Storage Project Act of 1956 (P.L. 485, 84th Cong., 70 Stat. 50), as a multi-purpose federal project that provides flood control; water storage for irrigation, municipal and industrial purposes; recreation and environmental mitigation and protection, in addition to the generation of electricity. This testimony will focus on the major power generation features of the CRSP, although there are several irrigation projects included in the Project. The CRSP power features include five dams and associated generators, substations, and transmission lines. Detailed descriptions of the CRSP facilities were provided in testimony provided to this Committee on March 7, 2001.

CRSP MARKETING AREA

Federal hydropower is marketed pursuant to law and marketing plans that have been developed through a public process. From the time CRSP resources were initially marketed, the allocations remained constant until September 1, 1989. In 1979, WAPA began its process of determining the amount of capacity and energy it would have available after 1989, and the criteria by which it would be allocated to customers (51 FR 4844, 2/7/86). This process resulted in the "post-89 contracts".

As part of this process, it was determined that CRSP resources were to be marketed pursuant to preference (section 9(c) of the Reclamation Act of 1939). Also through this process, it was determined that the geographic area into which CRSP resources would be marketed on a firm basis "did not include any portion of California….". Based on discussion contained in the marketing criteria, it was determined that the loads and interest level in California did not warrant expanding the marketing area into that state. In addition, existing contractors had made application for the entire amount of generation produced by the CRSP. There was an environmental impact statement (EIS) performed on the post-89 marketing criteria. This criteria was again reviewed in 1998, when extensions to the long-term firm contracts were considered. As part of this process, it was determined that 7 percent of the existing CRSP marketable resource would be held for allocation to Native American and new customers, beginning in 2004. (64 FR 34414, 6/25/99). Also as part of this process, there was a public inquiry initiated by the Department of Energy, which was intended to assess whether changes to federal marketing criteria should be made, given the onset of deregulation. (63 FR 66166, 12/1/98). Ultimately, DOE found no change was required of WAPA's marketing criteria, which reaffirmed the concept that the cost-based rates and marketing criteria associated with the CRSP are still relevant, possibly even more so, in a deregulated environment. Current customers have committed to purchase the entire output of the CRSP under long-term contract, through 2024. These contracts ensure repayment of the federal investment, with interest, as well as provide a level of resource certainty, which is critical in current market conditions in the West.

GLEN CANYON DAM

Glen Canyon Dam is located near Page, Arizona and is by far the largest of the CRSP projects. Glen Canyon Dam began operation in 1964. The water stored behind the dam is the key to full development by the Upper Colorado River Basin states of their Colorado River Compact share of Colorado River water. The Glen Canyon power plant consists of eight generators for a total of about 1300 MW, which is more than 70% of total CRSP generation. The ability of the USBR to generate, and WAPA to market, the total generating capability of Glen Canyon Dam has been impacted over a period of many years, by various processes and laws.

In 1978 the USBR began evaluating the possibility of upgrading the eight generating units at Glen Canyon. This was possible primarily due to design characteristics of the generators and improved insulating materials. This upgrade was completed, and the generation was increased from about 1000 MW to 1300 MW. To fully utilize the unit upgrades would have required the maximum water release at Glen Canyon to be increased from 31,500 cubic feet per second (cfs) to about 33,200 cfs. The USBR also studied the possibility of adding new units on the outlet works to provide additional peaking capacity. The possibility of increasing maximum releases from Glen Canyon raised concerns with downstream users. After discussion with stakeholders, the Secretary of the Interior initiated the first phase of the Glen Canyon Environmental Studies.

Following many years of study, in July 1989, the Secretary announced the start of an environmental impact statement (EIS) on the operation of the Glen Canyon Dam, although no specific Federal action was identified for study. Meetings were held during 1990 to seek input into alternatives that should be considered, and the USBR determined the nine alternatives (including a "no action" alternative) to be studied. Meanwhile, in 1992, the Grand Canyon Protection Act (106 Stat. 4672) was signed into law. Section 1804 of the Act required completion of the EIS within two years. The EIS was completed and the Record of Decision (ROD) signed in October 1996.

The result of 15 years of studies and processes is that Glen Canyon operations were changed to reflect a revised flow regime; approximately one-third of the generating capacity was lost (456 MW). The EIS identified the annual financial cost to CRSP power contractors at $89.1 million per year. But this was in 1991 dollars and would probably be 3-4 times greater today, given energy market conditions. The cost of the Glen Canyon EIS was approximately $104 million, and was funded by power revenues collected from the CRSP contractors. To date, over $134 million has been spent on Glen studies, and funded by CRSP power revenues. This figure does NOT include the nearly $8 million per year spent for the Adaptive Management Program.

In April of 2000, it was determined that due to hydrologic conditions and requirements of a 1994 Fish & Wildlife Service biological opinion, a low flow summer experiment would be undertaken. The experiment included high spike flows in May and September, with low flat flows (8,000 cfs) all summer. The purpose was to gain information regarding endangered humpback chub conditions. The low, flat flows and hydrology, along with western energy market prices had a severe impact on power generation, requiring CRSP customers, and WAPA, to purchase replacement power to meet their resource needs.

The cost incurred by WAPA (and to be recovered from CRSP contractors) for this replacement power was $55 million, just for the summer. Twenty-four million dollars of this total is attributed to the low steady flow environmental experiment; the remainder is attributed to wholesale energy market prices. The cost of the experiment alone was over $3.5 million, funded by CRSP power revenues. These figures do NOT include additional costs to CRSP contractors that had to purchase or supplement their CRSP resource with purchases from the energy market. The impact on Tri-State was approximately $22 million.

GLEN CANYON ADAPTIVE MANAGEMENT PROGRAM

CREDA participates on the Federal Advisory Committee charged with making recommendations to the Secretary of the Interior as to operations of Glen Canyon Dam pursuant to the Record of Decision and underlying laws. Funding for the program (Adaptive Management Program) is through CRSP power revenues. Proposed funding for next year's program will exceed $10 million. On October 27, 2000, President Clinton signed the FY 2001 Energy and Water Development Appropriations Act, which included language

(section 204) capping the amount of CRSP power revenues that can be used for the Adaptive Management Program, at $7,850,000, indexed for inflation. Without this cap, the annual program would have continued to increase, with power revenues being the sole funding source. Now, the program will need to seek appropriated dollars in order to maintain the increased funding levels. CREDA supports other sources of funding for this program. CREDA also participates on the Technical Work Group through consultants, to ensure that good science and efforts to increase power production are considered.

CRSP contractors have paid, and continue to pay, the majority of costs at Glen Canyon, even while the Glen capacity has been depleted by about one-third. There are significant operating constraints on the remaining available capability, as required by the 1996 ROD. Recognizing the instantaneous nature of power generation as well as constraints contained within the ROD, the USBR and WAPA should be directed to operate the facilities up to the maximum parameters allowed under the ROD. Maximum fluctuations (down to minimum nighttime flows of 5,000 cfs) should be permitted, which would allow the generation from Glen to follow load more accurately. There have been situations in the past where minimum flows were held at 8,000 cfs in an attempt to placate certain resource stakeholders, who believed there would be negative downstream effects. Subsequent analysis has disproved that assumption. Additional generating resource should be made available to the CRSP contractors within operating restrictions.

MARKET ISSUE MITIGATION

I. GLEN CANYON: The western energy market "price crisis" is affecting all CRSP contractors and WAPA. Reduced operational levels at CRSP facilities and environmental constraints have caused WAPA and the contractors to be out "in the market" having to purchase resources to meet contractual obligations and to serve load. This is the same energy market from which California entities are buying. Unlike merchant generating facilities that are constructed and operated to make a profit for their for-profit owners and shareholders, federal hydropower facilities cannot be operated for for-profit purposes. Their cost-based rates include many cost components not attributable to merchant plants, and they are subject to operating restrictions which are generally more stringent than those placed on merchant facilities.

The CRSP resources are marketed by WAPA pursuant to law and marketing plans within a legally defined marketing area, on a firm basis to preference entities. And yet, by Presidential and DOE directives issued during 2000, WAPA was called upon on September 18, 2000 and again on February 15, 2001, to "ramp up" Glen Canyon to assist the California Independent System Operator avoid blackouts. Although sympathetic to the energy situation in California, CREDA has some serious concerns with a requirement that CRSP resources be made available to California. CREDA's concerns are operational, legal and financial. Current hydrologic conditions in the Colorado Basin indicate the potential for another dry summer. Water released this spring may not be recoverable when it is so desperately needed to meet summer peak demands. CRSP resources are committed under long-term, cost-based contracts with a legally defined group of contractors, who are located within a legally established geographic marketing area. From a financial standpoint, the CRSP contractors are the "guarantors" of the federal investment in the CRSP. Given the current financial situation of California power purchasers, CREDA believes the CRSP contractors must be provided protection from financial impacts which may result from Presidential or Administration directives which require WAPA to sell into the California market.

Existing operating parameters in the ROD provide a limited range of operating flexibility. The ROD contains maximum and minimum flow levels, upramp and downramp limits, as well as daily fluctuation limits. However, even within these constraints, the USBR and WAPA should be encouraged to maximize power production to the fullest extent possible. They should be directed to temporarily suspend any

experimentation or research that would reduce power output. Research through the adaptive management program should center on ways to increase generation without significantly upsetting the balance of downstream resources, consistent with the CRSP Act's mandate to "maximize power production". Such research could also examine the potential for incremental generation enhancements.

II. STAKEHOLDER INVOLVEMENT: Electric system reliability, particularly during periods of limited resource availability, is critical to ensure delivery of electricity to the public. Decisions regarding system enhancements, particularly to the federal generating and transmission resources, must take into account both reliability and economic concerns. A good example of how this type of balance has been achieved is through a contractual arrangement among CREDA, WAPA and the USBR.

The common thread among CREDA members is that each one is a party to a CRSP firm power contract with the federal government. From CREDA's inception in 1978, the issue of CRSP rate development and application has been key to its mission. For many years, CREDA's only recourse when it disputed inclusion of costs or rate methodology was to file at protest at the Federal Energy Regulatory Commission (FERC). FERC has authority over federal power marketing administration rates, but only to a very limited extent. For several years, CREDA explored with the federal agencies mutually agreeable means of addressing rate issues. In 1983, the USBR and WAPA entered into an agreement that contained certain principles regarding power repayment study issues, rate issues and repayment issues. In addition, the agencies agreed to hold informal meetings with customers prior to proceeding with a formal rate process. Certainly, this was a step in the right direction.

During the years between the "1983 Agreement" and 1992, CREDA continued to work with the agencies to more fully develop what is informally known as the "1992 Work Program Review" process (Letter Agreement No. 92-SLC-0208). On September 24, 1992, WAPA, the USBR and CREDA executed a letter agreement that formally implemented procedures for customer review of CRSP costs. This agreement was codified in an amendment to the CRSP firm power contracts with each CRSP contractor. Under the agreement, CREDA is provided, semi-annually, detailed CRSP cost information from both agencies. There are procedures by which CREDA may challenge costs, as well as procedures by which disputes may be settled. Attempts to resolve disputes begin with negotiation, with the ultimate step being resolution under the Administrative Dispute Resolution Act of 1990 (P.L. No. 101-552, 104 Stat.2736), which include arbitration. The federal agencies also agreed to cooperate with CREDA to implement alternative dispute resolution procedures in any proceeding before FERC.

The 1992 Agreement sets out specific timetables and describes the nature of the cost information to be provided to CREDA. CREDA retains the ability to seek resolution in a Court of Law, but has the obligation to first proceed through the remedies provided in the 1992 Agreement. The benefits of this arrangement accrue to both the federal agencies and to CREDA members. Members have the ability to scrutinize work plan information, including proposed capital improvements and replacements and operation and maintenance expenses, before the plans become "cast in stone". Many CREDA members own and operate generation and transmission systems; they are able to bring expertise and insight to the agencies regarding reliability improvements and alternative construction options. This has proved to be a beneficial relationship and has resulted in cost savings to the CRSP customers. The agencies benefit because the parties to the Agreement attempt to resolve disputed issues prior to the instigation of formal rate processes. In fact, since implementation of the 1992 Agreement, CREDA has not litigated a CRSP rate case before FERC. Recently, following extensive work on the part of all parties during 1999-2000, WAPA was able to defer a proposed rate adjustment in July of 2000 (saving contractors approximately $12 million).

The 1992 Agreement was unique at the time it was executed. It continues to be a good example of constructive stakeholder involvement with federal agencies, particularly when the stakeholders are paying the costs of the federal programs at issue.

III. TRI-STATE RECOMMENDATIONS: Tri-State operates over 1,650 megawatts of generation and more than 5,000 miles of high voltage transmission lines in its own behalf and for others as well as holding ownership interests in other generation and transmission facilities. As a cooperative, it is directed by its 44 member electric distribution cooperatives, representing nearly 500,000 consumers and a population of nearly 1 million. A cost-based, consumer-owned utility, it is dedicated to providing sufficient supplies and reliable energy at an affordable cost.

As a member-owned utility, Tri-State has operated under cost-based rates and rate stability in an increasingly volatile market, particularly in the western United States, where consumer concerns over supplies and costs are steadily increasing.

The success of consumer-owned utilities that enjoy stable, affordable rates can be attributed to:

1. A mix of generation and transmission facilities and resources including hydropower as well as coal-fired and natural gas-fired plants.

2. Long-range forecasting, planning and construction work programs, as opposed to short-term market approaches.

3. A pragmatic approach to electricity supply and demand, where diversity of load and a sensible approach to providing reserves has created benefits more compelling than choice.

4. And most importantly, owner/stakeholder involvement and control.

CONCLUSIONS AND RECOMMENDATIONS

*Federal hydropower facility operating agencies should be directed to maximize production from those facilities, recognizing existing legal constraints. Research or experimentation that would reduce generation output should be temporarily suspended during regional power crisis situations. Research to increase generating capacity from these facilities, without significantly upsetting the downstream resource balance, should be undertaken immediately.

*CRSP resources are marketed under long-term, cost based contracts, within a defined geographic scope and guarantee repayment of the federal investment in power facilities as well as a very sizeable investment in irrigation projects. CRSP contractors must not be responsible for operational, legal or financial impacts associated with the federal government's assistance to California.

*Federal agencies should be encouraged to implement stakeholder involvement processes, particularly when the stakeholders are the funding source for federal programs.

Thank you for the opportunity to provide this information and appear before the Subcommittee today.

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